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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,277	02/12/2004	John Stanley Glaser	130487-2	5487

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General Electric Company  
CRD Patent Docket Rm 4A59  
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P.O. Box 8  
Schenectady, NY 12301

EXAMINER	
NGUYEN, CHAU N	
ART UNIT	PAPER NUMBER
2831	

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/776,277	<b>Applicant(s)</b> GLASER ET AL.	
	<b>Examiner</b> Chau N Nguyen	<b>Art Unit</b> 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 49-88 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 49-59, 63-66, 69-78, 82-85 and 88 is/are rejected.
- 7) ☒ Claim(s) 60-62, 67, 68, 79-81, 86 and 87 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/8/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because they are not provided with proper cross-section hatching, see MPEP 608. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective

action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of "the act of folding the ribbon comprising bending the ribbon to form a corner" as claimed in claims 51 and 72; "the cable assembly being folded lengthwise" as claimed in claims 52 and 73; "the conductors having a non-rectangular cross-section" as claimed in claims 57 and 76; "opposite face pairs of the electrical conductors being electrically coupled at edges of the cable substrate" as claimed in claims 67 and 86 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures

must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 49 is rejected under 35 U.S.C. 102(b) as being anticipated by Tighe, Jr. (4,719,319).

Tighe, Jr. discloses an electrical cable comprising a plurality of electrical conductors (3) bonded to respective neighboring ones of the electrical conductors to form a ribbon (Fig. 3), the electrical conductors being electrically insulated from the respective neighboring ones, the ribbon being folded to form cable assembly, each of the conductors traversing the width of the cable assembly at least twice (Fig. 1). Noted that the term "optionally" implies that the recitation or the element in the claims needs not to be included.

5. Claims 49, 50, 52, 54-57, 64, 65, 70, 71, 73-76, 83 and 84 are rejected under 35 U.S.C. 102(b) as being anticipated by Rokas (4,443,277).

Rokas discloses an electrical cable comprising a plurality of electrical conductors (14) bonded to respective neighboring ones of the electrical conductors to form a ribbon (Fig. 1), the electrical conductors being electrically insulated from the respective neighboring ones, the ribbon being folded to form cable assembly, each of the conductors traversing the width of the cable assembly at least twice (Fig. 1). Noted that the term "optionally" implies that the recitation or the element in the claims needs not to be included (re claims 49 and 70). Rokas also discloses the conductors not describing spirals around the cable assembly (Fig. 8) (re claims 50, 71), the cable assembly being folded lengthwise (Fig. 8) (re claims 52, 73), the

conductors being bonded to a cable substrate or a bonding layer (16) (re claims 54, 74), the cable substrate being electrically insulating (re claims 55, 75), the conductors being spaced apart from the respective neighboring ones (re claim 56), the conductors having a non-rectangular cross section (re claims 57, 76), the conductors being disposed on an outer surface of the cable assembly (re claims 64, 83), and the ribbon being folded around an insulating strip (52, Fig. 7) (re claims 65, 84).

6. Claims 49, 51, 54, 69, 70, 72 and 88 are rejected under 35 U.S.C. 102(e) as being anticipated by Zein et al. (2002/0046870).

Zein et al. discloses an electrical cable comprising a plurality of electrical conductors (3) bonded to respective neighboring ones of the electrical conductors to form a ribbon (Fig. 2), the electrical conductors being electrically insulated from the respective neighboring ones, the ribbon being folded to form cable assembly (Figs 7 and 8), each of the conductors traversing the width of the cable assembly at least twice (Figs 7 and 8). Noted that the term "optionally" implies that the recitation or the element in the claims needs not to be included (re claims 49 and 70). Zein et al. also discloses the act of folding the ribbon comprising bending the ribbon to form a corner (Fig. 8) (re claims 51, 72), the conductors being bonded to

a cable substrate (re claim 54), the conductors comprising an electrically conductive ink (conductors 3 being electrical circuit traces) (re claims 69, 88).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tighe, Jr. in view of Shah et al. (5,500,489).



Claim 53 additionally recites a bonding layer disposed in the ribbon. Shah et al. discloses a ribbon cable in which comprises a bonding layer (10). It would have been obvious to one skilled in the art to provide the ribbon (Fig. 3) of Tighe, Jr. with a bonding layer as taught Shah et al. to provide a bonding between the ribbon and the conductive film (11) when the ribbon is used to form a cable assembly.

10. Claims 58, 59, 63, 66, 77, 78, 82 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rokas.

Claims 58, 59, 77 and 78 additionally recite a subset of the conductors being electrically coupled at a first end of the cable assembly and another subset of the conductors being electrically coupled at a second end which is opposite from the first end of the cable assembly. Although not specifically disclosed by Rokas, it would have been obvious to one skilled in the art to electrically couple a first part of the conductors at a first end and a second part of the conductors at a second end opposite from the first end to provide electrical connection to the ribbon since providing electrical connections to different conductor sets within a cable at two opposite ends is known in the art.

Re claims 63 and 82, it would have been obvious to one skilled in the art to also provide conductors on the other face of the cable substrate (16) in the ribbon of Rokas to increase the transmission capacity of the ribbon since it has been held that merely duplicating the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Re claims 66 and 85, it would have been obvious to one skilled in the art to arrange the conductors of Rokas in diagonal patterns to meet the specific use of the resulting ribbon since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

### ***Allowable Subject Matter***

11. Claims 60-62, 67, 68, 79-81, 86 and 87 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Cited Art***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peterson et al., Cartier et al. and Coon disclose ribbons having a plurality of conductors.

### *Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Chau N Nguyen", with a long horizontal flourish extending to the right.

Chau N Nguyen  
Primary Examiner  
Art Unit 2831